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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,441	04/12/2004	Shigeru Nojima	5576-159	1431

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EXAMINER

NGUYEN, CAM N

ART UNIT	PAPER NUMBER
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1754

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/822,441	NOJIMA ET AL.	
	Examiner	Art Unit	
	Cam N. Nguyen	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/28/06 (an election).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-23 and 29-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-23 and 29-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on originally filed is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>originally filed</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Election/Restrictions

1. Applicant's election without traverse of Group I, claims 17-23 & 29-31, in the reply filed on November 28, 2006 is acknowledged. The nonelected invention, claims 1-16 & 24-28, have been canceled by applicants in this amendment.

Specification

2. The abstract of the disclosure is objected to because it is not written in a single paragraph format. Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claims 17-20 & 22-31 are objected to because of the following informalities:
 - A. In claims 17-20 & 22, line 1-2, "which removes nitrogen oxides" should be deleted.
 - B. In claims 18-20 & 22, it is suggested that applicants rewrite these claims reciting the first catalyst and second catalyst in order for better read. The way the claim is now written is very confusing because the second catalyst recitation is placed before the first catalyst recitation.
 - C. In claim 18, line 5, "and" should be changed to --wherein--.
 - D. In claim 18, line 7, "kinds of" should be changed to --member of--.
 - E. In claim 18, last line, "kinds of" should be changed to --member of--.
 - F. In claim 22, line 4 & line 7, "kinds of" should be changed to --member of--.
 - G. In claims 23-31, it is suggested that applicants changing the phrase "at least not less than 1/4 and less than 4/4" to --greater than or equal to 1/4 and less than 4/4-- better read.

Appropriate correction is required.

Claim Rejections - 35 USC § 112 (Second Paragraph)

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 18 & 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 18, it is unclear as to what applicants intend by the phrase “is applied” in line 8 & line 10 of the claim. Do applicants mean that these metal oxides are “supported on” or “deposited on” another metal oxide component?

Claim Rejections - 35 USC § 102(b)

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Pfeifer et al., “hereinafter referred to as Pfeifer ‘920”, (PG-Pub No. US 2002/0116920 US).

Pfeifer ‘920 discloses an exhaust gas treatment unit, said exhaust gas treatment unit comprises: (a) a first catalyst unit, wherein said first catalyst unit comprises a three-way catalyst; (b) a second catalyst unit, wherein said second catalyst unit is located downstream of the first catalyst unit and comprises an SCR-catalyst; and (c) a third catalyst unit, wherein said third catalyst unit is located downstream of said first catalyst unit and upstream of said second catalyst

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unit, and said third catalyst unit is capable of oxidizing nitrogen oxides present in the exhaust gas at lean exhaust gas conditions so that from 25 to 75 vol.% of the nitrogen oxides entering the second catalyst unit are nitrogen oxides (see page 4, claim 1). The catalyst in the second catalyst unit can be catalyst based on solid acid systems V_2O_5/TiO_2 or $V_2O_5/WO_3/TiO_2$ or $V_2O_5/MoO_3/TiO_2$ (see page 3, paragraph [0033]).

There is no patentable distinction seen between the claimed catalyst and that disclosed by Pfeifer '920. Thus, the claim is anticipated by the teaching of the reference.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 18-23 & 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfeifer et al., "hereinafter referred to as Pfeifer '920", (PG-Pub No. US 2002/0116920 US) taken together with Balling et al., "hereinafter Balling 545", (US Pat. 5,397,545).

Pfeifer '920 discloses an exhaust gas treatment unit, said exhaust gas treatment unit comprises: (a) a first catalyst unit, wherein said first catalyst unit comprises a three-way catalyst; (b) a second catalyst unit, wherein said second catalyst unit is located downstream of the first catalyst unit and comprises an SCR-catalyst; and (c) a third catalyst unit, wherein said third catalyst unit is located downstream of said first catalyst unit and upstream of said second catalyst unit, and said third catalyst unit is capable of oxidizing nitrogen oxides present in the exhaust gas

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at lean exhaust gas conditions so that from 25 to 75 vol.% of the nitrogen oxides entering the second catalyst unit are nitrogen oxides (see page 4, claim 1). The catalyst in the second catalyst unit can be catalyst based on solid acid systems V_2O_5/TiO_2 or $V_2O_5/WO_3/TiO_2$ or $V_2O_5/MoO_3/TiO_2$ (see page 3, paragraph [0033]).

Pfeifer '920 does not disclose the first catalyst (or upstream catalyst) contain copper oxide and/or chromium oxide.

However, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have incorporated such known catalyst containing copper oxide and/or chromium oxide into the catalyst of Pfeifer '920 in order to achieve an improved catalytic converter having the accelerating capability as taught by Balling (see Balling '545 at col. 8, claim 7).

Regarding claims 23 & 29-31, it is considered the claimed limitation on "at least not less than $\frac{1}{4}$ and less than $\frac{4}{4}$ of an upstream catalyst..." is inherently met by teaching of the reference in view of the same first catalyst and second catalyst disclosed and being claimed.

Citations

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. All references are cited for related art. See PTO-1449 Form prepared.

Conclusion

11. Claims 17-23 & 29-31 are pending. Claims 17-23 & 29-31 are rejected. No claims are allowed.

Contacts

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M-F, 9:00 AM - 6:30 PM, at alternative work site.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Cam N. Nguyen/

Nguyen/cnn

Primary Examiner

February 19, 2007

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